

FOR PUBLICATION
UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

NATIONAL ASSOCIATION OF HOME
BUILDERS; SOUTHERN ARIZONA
HOME BUILDERS ASSOCIATION;
HOME BUILDERS ASSOCIATION OF
CENTRAL ARIZONA,

Plaintiffs-Appellants,

DEFENDERS OF WILDLIFE;
SOUTHWEST CENTER FOR
BIODIVERSITY; FRIENDS OF THE
OWLS; PETER GALVIN,

Intervenors-Appellees,

v.

GALE A. NORTON; JAMIE RAPPAPORT
CLARK; FISH AND WILDLIFE SERVICE,
Defendants-Appellees.

No. 02-15212

D.C. No.
CV 00-0903 SRB
OPINION

Appeal from the United States District Court
for the District of Arizona
Susan R. Bolton, District Judge, Presiding

Argued and Submitted
March 10, 2003—San Francisco, California

Filed August 19, 2003

Before: John T. Noonan, A. Wallace Tashima, and
Kim McLane Wardlaw, Circuit Judges.

Opinion by Judge Tashima

COUNSEL

Norman D. James, Fennemore Craig, Phoenix, Arizona, for the plaintiffs-appellants.

Jeffrey R. Keohane, U.S. Department of Justice, Environment & Natural Resources Division, Washington, D.C., for the defendants-appellees.

Michael P. Senatore, Defenders of Wildlife, Washington, D.C., for the intervenors-appellees.

OPINION

TASHIMA, Circuit Judge:

The National Association of Home Builders, the Southern Arizona Home Builders Association, and the Home Builders Association of Central Arizona (collectively, “Home Builders”) appeal the district court’s decision upholding the designation of a population of cactus ferruginous pygmy-owls in Arizona as a distinct population segment (“DPS”) pursuant to the Fish and Wildlife Service’s (“FWS”) *Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act*, 61 Fed. Reg. 4722 (Feb. 7, 1996) (“DPS Policy”). Home Builders argue that this DPS designation violated the *DPS Policy* because the Arizona pygmy-owl population is neither discrete nor significant. We hold that, although the FWS did not arbitrarily find the Arizona pygmy-owl population to be discrete, the FWS arbitrarily found the discrete population to be significant. We therefore reverse the district court’s decision and remand the Listing Rule to the district court.

BACKGROUND

The cactus ferruginous pygmy-owl (*Glaucidium brasili-anum cactorum*) is a small bird, about 6.75 inches in length, that can be reddish-brown or gray. *Determination of Endangered Status for the Cactus Ferruginous Pygmy-Owl in Arizona*, 62 Fed. Reg. 10,730, 10,730 (Mar. 10, 1997) (codified at 50 C.F.R. § 17.11(h)) (“Listing Rule”). It is one of four subspecies of the ferruginous pygmy-owl. *Id.* The range of the cactus ferruginous pygmy-owl (“pygmy-owl”) extends “from lowland central Arizona south through western Mexico, to the States of Colima and Michoacan, and from southern Texas south through the Mexican States of Tamaulipas and Nuevo Leon.”¹ *Id.* The pygmy-owls in Arizona represent the northernmost edge of the subspecies’ range. *Id.* at 10,734.

¹The three other ferruginous pygmy-owl subspecies occur to the south of this range, spanning from southern Mexico through South America. *See id.*

The habitat of the pygmy-owl in central and southern Arizona used to be riparian cottonwood forests, mesquite bosques, and Sonoran desertscrub; however, Arizona pygmy-owls are now found primarily in Sonoran desertscrub associations of palo verde, bursage, ironwood, mesquite, acacia, and giant cacti, like saguaro and organpipe. *Id.* at 10,731. In northwestern Mexico, pygmy-owls reside in Sonoran desertscrub, Sinaloa thornscrub, Sinaloa deciduous forest, riverbottom woodlands, cactus forests, and thornforest. *Id.* Pygmy-owls nest in cavities of trees or large columnar cacti and have a diverse diet. *Id.* at 10,730. By the FWS' estimates, pygmy-owls were once common to Arizona prior to the mid-1900s, *id.* at 10,740, but only between 20 and 40 pygmy-owls remain in Arizona.² *Nat'l Ass'n of Home Builders v. Norton*, 2001 WL 1876349, at *4 (D. Ariz. 2001) ("*Home Builders*").

On May 26, 1992, conservation organizations petitioned the FWS³ to list the pygmy-owls in the United States and Mexico as an endangered species and to designate a critical habitat for them. Listing Rule, 62 Fed. Reg. at 10,732. Following a status review, the FWS proposed listing the pygmy-owl as endangered with critical habitat in Arizona and threatened in Texas. *See Proposed Rule to List the Cactus Ferruginous Pygmy-Owl as Endangered with Critical Habitat in Arizona and Threatened in Texas*, 59 Fed. Reg. 63,975 (proposed Dec. 12, 1994). After a notice and comment period, the FWS issued a final rule listing the Arizona pygmy-owls as endangered (but not listing the Texas pygmy-owls as threatened). Listing Rule, 62 Fed. Reg. at 10,730. The FWS did not designate a critical habitat concurrently with the Listing Rule,

²In the Listing Rule, the FWS stated that the Arizona pygmy-owls numbered fewer than 20. 62 Fed. Reg. at 10,741. More pygmy-owls have apparently been discovered since the publication of the Listing Rule and the FWS now estimates that 20 to 40 pygmy-owls exist in Arizona.

³The Secretary of the Interior has delegated the authority to list endangered species and designate critical habitats to the FWS. *See Fund for Animals, Inc. v. Norton*, 322 F.3d 728, 730 (D.C. Cir. 2003).

however, due to concerns about harm to and harassment of pygmy-owls.⁴ 62 Fed. Reg. at 10,745. After the Southwest Center for Biological Diversity successfully sued the FWS to force a habitat designation, the FWS designated critical habitat for the Arizona pygmy-owl DPS. *Designation of Critical Habitat for the Cactus Ferruginous Pygmy-owl*, 64 Fed. Reg. 37,419, (July 12, 1999).

In the Listing Rule, the FWS designated the Arizona pygmy-owls as a DPS. 62 Fed. Reg. at 10,731, 10,737. The ESA permits the FWS to designate a population of a species as a DPS and to list it as an endangered species. *See* 16 U.S.C. §§ 1532(16), 1533(a)(1). To designate a DPS under the *DPS Policy*, the FWS must find that a population is discrete “in relation to the remainder of the species to which it belongs” and significant “to the species to which it belongs.” 61 Fed. Reg. at 4725. In making this designation in the Listing Rule, the FWS first found that the pygmy-owl populations in the east (southeast Texas south through northeastern Mexico) and west (central Arizona south through northwestern Mexico) are (1) discrete “based on geographic isolation, distribution and status of habitat, and potential morphological and genetic distinctness,” and (2) significant because the loss of either population would create a significant gap in the range of the subspecies. 62 Fed. Reg. at 10,731.

Next, the FWS further subdivided the western pygmy-owl DPS into an Arizona population and a northwestern Mexico

⁴In this regard, the Endangered Species Act (“ESA”) provides:

The Secretary, . . . to the maximum extent prudent and determinable—

(A) shall concurrently with making a determination under paragraph (1) that a species is an endangered species or a threatened species, designate any habitat of such species which is then considered to be critical habitat. . . .

16 U.S.C. § 1533(a)(3)(A).

population.⁵ *Id.* According to the Listing Rule, the Arizona pygmy-owls are discrete from the northwestern Mexico pygmy-owls because they are “delimited by international boundaries” and “the status of the species in Arizona is different from that in Sonora [Mexico], with records currently indicating a higher number of individuals in Sonora.” *Id.* at 10,737. The FWS also found that the discrete population of Arizona pygmy-owls is significant to its taxon because

[s]hould the loss of either the Arizona or Texas populations occur, the remaining population would not fill the resulting gap as the remaining population would not be genetically or morphologically identical, and would require different habitat parameters. The loss of either population also would decrease the genetic variability of the taxon and would result in a significant gap in the range.

Id.

Home Builders sued to vacate the Listing Rule and the designation of critical habitat. The district court granted summary judgment to the FWS. *Home Builders*, 2001 WL 1876349, at *3-*5. The district court held that the “FWS’ decision to divide the ‘western population,’ at the international border between Arizona and Mexico in order to protect the population segment facing extinction within the United States” was permissible and consistent with ESA policy. *Id.* at *7. The district court also granted the FWS’ Motion for Partial Voluntary Remand of Critical Habitat Designation (and vacated the designation) because of insufficient economic impact analysis. *Id.* at *2-*3.

On appeal, Home Builders argue that the FWS violated the

⁵The final rule also subdivided the eastern pygmy-owls into Texas and northeastern Mexico populations. *Id.* That subdivision is not at issue here.

DPS Policy by designating the Arizona pygmy-owls as a DPS.

APPELLATE JURISDICTION

The district court certified its grant of summary judgment to the FWS on the Listing Rule as a final judgment under Federal Rule of Civil Procedure 54(b). We earlier held that the initial Rule 54(b) certification was “plainly deficient, because ‘[i]t never made a requisite express determination that there is no just reason for delay.’ ” *Nat’l Ass’n of Home Builders v. Norton*, 325 F.3d 1165, 1167 (9th Cir. 2003) (quoting *Frank Briscoe Co. v. Morrison-Knudsen Co.*, 776 F.2d 1414, 1416 (9th Cir. 1985)).

On limited remand, the district court again certified its listing decision as an appealable final judgment under Rule 54(b). It noted that its decision to uphold the Listing Rule completely disposed of Home Builders’ challenge, leaving nothing more to be adjudicated. The district court then determined that there was no just reason for delay because the Listing Rule and designation of critical habitat were different administrative actions, based on separate administrative records, leaving little chance of overlapping appeals. Giving the district court’s determination that this case is appropriate for a Rule 54(b) certification the deference to which it is entitled, *Bingham v. Schreiber*, 329 F.3d 723, 726 n.1 (9th Cir. 2003), we now conclude that the district court’s certification is sufficient to allow us to exercise jurisdiction over Home Builders’ appeal challenging the Listing Rule. *Morrison-Knudsen Co. v. Archer*, 655 F.2d 962, 965 (9th Cir. 1981). We therefore have jurisdiction over this appeal under 28 U.S.C. § 1291.

STANDARD OF REVIEW

We review a district court’s grant of summary judgment *de novo*. *Biodiversity Legal Found. v. Badgley*, 309 F.3d 1166,

1175 (9th Cir. 2002). On appeal, we view the evidence in the light most favorable to the nonmoving party. *Nat'l Audubon Soc'y, Inc. v. Davis*, 307 F.3d 835, 851 (9th Cir.), *amended by*, 312 F.3d 416 (9th Cir. 2002). Viewing the evidence in that light, we must determine whether the district court correctly applied the substantive law. *Delta Sav. Bank v. United States*, 265 F.3d 1017, 1021 (9th Cir. 2001), *cert. denied*, 534 U.S. 1082 (2002).

The judicial review provision of the Administrative Procedure Act ("APA"), 5 U.S.C. § 706, governs our review of agency actions under the ESA. *Native Ecosystems Council v. Dombeck*, 304 F.3d 886, 901 (9th Cir. 2002). Under § 706, we must set aside agency actions that are "arbitrary, capricious, an abuse of discretion or otherwise not in accordance with law." *Southwest Ctr. for Biological Diversity v. U.S. Forest Serv.*, 307 F.3d 964, 975 (9th Cir. 2002). This deferential standard ensures that the agency decision contains no clear error of judgment. *Pac. Coast Fed'n of Fishermen's Ass'ns, Inc. v. Nat'l Marine Fisheries Serv.*, 265 F.3d 1028, 1034 (9th Cir. 2001). Although we presume regulations to be valid, *Irvine Med. Ctr. v. Thompson*, 275 F.3d 823, 830-31 (9th Cir. 2002), our inquiry into their validity is a " 'thorough, probing, in-depth review.' " *James Madison Ltd. by Hecht v. Ludwig*, 82 F.3d 1085, 1098 (D.C. Cir. 1996) (quoting *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 415 (1971)).

To determine whether the agency action was arbitrary and capricious, we must decide whether the agency "considered the relevant factors and articulated a rational connection between the facts found and the choice made." *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 105 (1983); *see also Ctr. for Biological Diversity v. Badgley*, 2003 WL 21688632, at *3 (9th Cir. Jul. 21, 2003). An agency action must be reversed when the agency has "relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evi-

dence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” *Pac. Coast Fed’n of Fishermen’s Ass’ns*, 265 F.3d at 1034 (quoting *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)). Our review of an agency decision is based on the administrative record and the basis for the agency’s decision must come from the record. *Ariz. Cattle Growers’ Ass’n v. U.S. Fish & Wildlife Serv.*, 273 F.3d 1229, 1236 (9th Cir. 2001). We cannot substitute our judgment for that of the agency. *Id.*

DISCUSSION

Preliminarily, it is helpful to note what is not at issue in this case. First, Home Builders do not challenge the *DPS Policy* itself; they agree that the policy is valid and entitled to *Chevron* deference.⁶ The challenge here is only to the FWS’ application of the *DPS Policy*. Second, Home Builders do not challenge the FWS’ determination that, once severed from the rest of the western pygmy-owl population, the Arizona pygmy-owls could be considered endangered. Home Builders only challenge their designation as a DPS. Third, Home Builders do not contest the designation of the eastern and western pygmy-owls as DPSs, only the subdivision of the western pygmy-owls into the Arizona DPS and the northwestern Mexico population.⁷ Thus, the question we must decide is

⁶*Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 843-44 (1984).

⁷Home Builders also do not challenge the well-established propositions that (1) international borders can divide protected and unprotected populations; and (2) the United States can protect endangered populations within its borders even if other populations of the same species are more abundant in other countries. In fact, the *DPS Policy* incorporates those propositions. Compare 61 Fed. Reg. at 4722-25, with *Defenders of Wildlife v. Norton*, 258 F.3d 1136, 1145 (9th Cir. 2001), *Wyo. Farm Bureau Fed’n v. Babbitt*, 199 F.3d 1224, 1235 n.4 (10th Cir. 2000), and *United States v. McKittrick*, 142 F.3d 1170, 1176 (9th Cir. 1998).

whether the FWS violated its *DPS Policy* by finding that the Arizona pygmy-owls are a discrete and significant population.

The FWS Acted Arbitrarily And Capriciously in Designating the Arizona Pygmy-Owls as a DPS

The ESA definition of species “includes any subspecies of fish or wildlife or plants, and any *distinct population segment* of any species of vertebrate fish or wildlife which interbreeds when mature.” 16 U.S.C. § 1532(16) (emphasis added). Thus, under the ESA, the FWS can designate a particular population of a species as a DPS and then consider that DPS as a species for listing purposes. 16 U.S.C. §§ 1532(16), 1533(a)(1).

The ability to designate and list DPSs allows the FWS to provide different levels of protection to different populations of the same species. *See DPS Policy*, 61 Fed. Reg. at 4725; *see also* S. Rep. No. 96-151, at 7 (1979). The FWS does not have to list an entire species as endangered when only one of its populations faces extinction.

[1] Since the ESA does not define the term “distinct population segment,”⁸ the FWS and the National Marine Fisheries Service jointly promulgated the *DPS Policy* to ensure consistency in their respective DPS designations. Under the *DPS Policy*, a DPS must be discrete “in relation to the remainder of the species to which it belongs” and significant “to the species to which it belongs.” 61 Fed. Reg. at 4725. A DPS must be both discrete and significant, because “[t]he interests of conserving genetic diversity would not be well served by efforts directed at either well-defined but insignificant units or entities believed to be significant but around which boundaries cannot be recognized.” *Id.* at 4724.

⁸The term “distinct population segment” is “not commonly used in scientific discourse.” *DPS Policy*, 61 Fed. Reg. at 4722.

A. The FWS Did Not Arbitrarily and Capriciously Find That the Arizona Pygmy-Owl Population is Discrete

[2] The purpose of the discreteness standard is to ensure that a DPS is “adequately defined and described,” allowing for the effective administration of the ESA. *DPS Policy*, 61 Fed. Reg. at 4724. This standard distinguishes a population from other members of its species, but does not require “absolute separation.” *Id.* A population is discrete if (1) “[i]t is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors”; or (2) “[i]t is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the Act.” *Id.* at 4725. Although the use of international borders “may introduce an artificial and non-biological element” into the discreteness standard, “it appears to be reasonable for national legislation . . . to recognize units delimited by international boundaries when these coincide with differences in the management, status, or exploitation of a species.” *Id.* at 4723.

In the Listing Rule, the FWS found that the Arizona pygmy-owls are discrete from the northwestern Mexico pygmy-owls because the international border divides the two populations and significant differences in conservation status exist between those populations. *See* 62 Fed. Reg. at 10,737 (“[T]he Service believes the status of the species in Arizona is different from that in Sonora, [Mexico,] with records currently indicating a higher number of individuals in Sonora”). Home Builders contend that the FWS failed to demonstrate any differences in the conservation status of pygmy-owls in Arizona and northwestern Mexico. The issue here, therefore, is whether the FWS acted arbitrarily in determining that significant differences in conservation status exist across the international boundary.

The *DPS Policy* does not define the term “conservation status.” See 61 Fed. Reg. at 4725. The FWS argues that the term “conservation status” means “the number of individuals left in the population.” As a consequence, “differences in conservation status” mean “differences in the number of owls” on either side of the border. A court must defer to an agency’s interpretation of its own regulations unless it is plainly erroneous. *Stinson v. United States*, 508 U.S. 36, 45 (1993). Home Builders do not challenge the FWS’ interpretation of “conservation status,” and it does not seem to be plainly erroneous. This interpretation is not a *post hoc* rationalization in the FWS’ litigating position, because the FWS has used the term similarly in other listing rules. See, e.g., *Endangered Status for the Peninsular Ranges Population Segment of the Desert Bighorn Sheep in So. Calif.*, 63 Fed. Reg. 13,134, 13,136 (Mar. 18, 1998) (finding “significant differences between the United States and Mexico in regard to the species’ conservation status” where “the population in Baja California is not likely to be in danger of extirpation within the foreseeable future because there are significantly more animals there than occur in the United States”). This interpretation also does not reduce the surrounding terms—control of exploitation, management of habitat, regulatory mechanisms—to redundancy or surplusage. See *Babbitt v. Sweet Home Chapter of Cmty. for a Great Or.*, 515 U.S. 687, 697-98 (1995). We conclude that “conservation status,” as used in the discreteness test, is a term of art that lends itself to interpretation by the FWS.

Comparing the “conservation status” of pygmy-owls across the border, the FWS found that pygmy-owls were abundant in parts of northwestern Mexico but were rare and declining in Arizona.⁹ Listing Rule, 62 Fed. Reg. 10,737, 10,740-41. Home Builders challenge the FWS’ assertion that pygmy-

⁹The abundance of pygmy-owls in northwestern Mexico varies depending on the area. In northern Sonora, the pygmy-owl “is now rare or absent,” but the pygmy-owl “can still be located fairly easily in southern Sonora.” Listing Rule, 62 Fed. Reg. at 10,741.

owls were once common in Arizona but have been declining in number since the mid-1900s due to habitat modification and destruction. Home Builders contend that the pygmy-owls were never numerous in Arizona, because their numbers have always fluctuated as a peripheral population at the edge of the subspecies' range. Home Builders also attack the FWS' use of data from early naturalists as unreliable. To support its claims, Home Builders cite to a study they commissioned and to comments from several Arizona agencies.

This issue is “ ‘a classic example of a factual dispute the resolution of which implicates substantial agency expertise.’ ” *Mt. Graham Red Squirrel v. Espy*, 986 F.2d 1568, 1576 (9th Cir. 1993) (quoting *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 376 (1989)). Courts defer to agencies “ ‘[w]hen specialists express conflicting views,’ ” because “ ‘an agency must have discretion to rely on the reasonable opinions of its own qualified experts even if, as an original matter, a court might find contrary views more persuasive.’ ” *Id.* (quoting *Marsh*, 490 U.S. at 378); *see also* *Ariz. Cattle Growers' Ass'n*, 273 F.3d at 1236.

[3] This case presents exactly the type of informed agency discretion to which we must defer. *See Marsh*, 490 U.S. at 377. After examining all the evidence, including the comments and studies cited by Home Builders, the FWS found that the declining numbers of Arizona pygmy-owls were due to habitat destruction and modification, not fluctuations in a peripheral population. Listing Rule, 62 Fed. Reg. at 10,734, 10,737, 10,740-41. Additionally, if the reports of early naturalists were the best available scientific evidence—as suggested by the reliance of Home Builders' experts on them—then the FWS did not abuse its discretion by relying on them. *See Greenpeace Action v. Franklin*, 14 F.3d 1324, 1336 (9th Cir. 1992) (stating that when agencies rely on their experts and employ the best available scientific evidence, “the fact that the evidence is ‘weak,’ and thus not dispositive, does not render the agency's determination ‘arbitrary and capri-

cious' ") (quoting *Stop H-3 Ass'n v. Dole*, 740 F.2d 1442, 1460 (9th Cir. 1984)). The FWS' finding that pygmy-owls were "extremely limited in distribution" in Arizona but existed in greater numbers in northwestern Mexico, Listing Rule, 62 Fed. Reg. at 10,740, 10,741, was an adequate exercise of agency expertise. Thus, we hold that the FWS did not arbitrarily find that the differences in the conservation status of pygmy-owls across the border satisfied the discreteness element of the *DPS Policy*.

B. The FWS Has Not Demonstrated a Rational Basis in the Listing Rule For its Finding That the Arizona Pymgy-Owl Population is Significant to its Taxon

[4] If a population is discrete, the FWS then considers the "biological and ecological significance" of the population to the taxon to which it belongs. *DPS Policy*, 61 Fed. Reg. at 4724, 4725. The purpose of the significance element is "to carry out the expressed congressional intent that this authority [to list DPSs] be exercised sparingly as well as to concentrate conservation efforts undertaken under the Act on avoiding important losses of genetic diversity." *Id.* at 4724; *see also* S. Rep. No. 96-151, at 7 ("[T]he committee is aware of the great potential for abuse of this authority [to list DPSs] and expects the FWS to use the ability to list populations sparingly and only when the biological evidence indicates that such action is warranted."). The FWS determines the significance of a discrete population by considering the following non-exclusive factors:

1. Persistence of the discrete population segment in an ecological setting unusual or unique for the taxon,
2. Evidence that loss of the discrete population segment would result in a significant gap in the range of a taxon,
3. Evidence that the discrete population segment represents the only surviving natural occurrence of a

taxon that may be more abundant elsewhere as an introduced population outside its historic range, or

4. Evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics.

DPS Policy, 61 Fed. Reg. at 4725.

In the Listing Rule, the FWS found that the discrete population of Arizona pygmy-owls is significant because

[s]hould the loss of either the Arizona or Texas populations occur, the remaining population would not fill the resulting gap as the remaining population would not be genetically or morphologically identical, and would require different habitat parameters. The loss of either population also would decrease the genetic variability of the taxon and would result in a significant gap in the range.

62 Fed. Reg. at 10,737. The FWS argues that it found the Arizona pygmy-owl population to be significant to its taxon in the Listing Rule based on the second and fourth significance factors.

1. *The Second Significance Factor*

In the Listing Rule, the FWS concluded that the loss of the Arizona pygmy-owls “would result in a significant gap in the range” of their taxon. 62 Fed. Reg. at 10,737. The question, then, is whether the FWS arbitrarily determined that the loss of the discrete Arizona pygmy-owl population would cause a gap in the range of its taxon and that such a gap would be significant. *See DPS Policy*, 61 Fed. Reg. at 4725.

a. *Whether the Loss of the Arizona Pymgy-Owl Population Would Cause a Gap in the Range of the Taxon*

The FWS noted in the Listing Rule that the Arizona pymgy-owls “represent the northernmost portion of the pygmy-owl’s range.” 62 Fed. Reg. at 10,734. The parties disagree over whether the loss of a peripheral population (*i.e.*, a population at the edge of a species’ range) could create a gap in the range of a taxon. The parties analogize to “a gap in a fence” to support their respective definitions of a gap in the range of a taxon. Home Builders argue that “a ‘gap,’ by definition, occurs in the middle of the fence, not at its end,” so that only the loss of a population that severs a taxon into isolated parts would create a gap. The FWS argues that “the gap in a fence is just as great if it occurs at the end as in the middle,” so that the loss of a peripheral population would create a gap in a taxon’s range.

The *DPS Policy* does not define what constitutes a “gap” for the purposes of the second significance factor. *See* 61 Fed. Reg. at 4725. The ordinary dictionary definition of “gap” is “a hole or opening, as in a wall or fence, made by breaking or parting,” which does not by itself resolve the ambiguity of this issue. *Webster’s New World Dictionary of American English* at 555 (3d ed. 1994). Since the definition of gap is ambiguous, the FWS is entitled to deference in interpreting its own regulations, unless that interpretation is plainly erroneous. *Stinson*, 508 U.S. at 45. The FWS has previously found a “gap in the middle of the fence.” *See* 63 Fed. Reg. at 13,136 (“The loss of Peninsular bighorn sheep in the United States would isolate bighorn sheep populations in Mexico . . . from all other bighorn sheep . . .”). In other listing rules, however, the FWS has interpreted the term “gap” to include the loss of peripheral populations. *See Determination of Endangered Status for the So. Calif. Distinct Vertebrate Population Segment of the Mountain Yellow-Legged Frog*, 67 Fed. Reg. 44,382, 44,385 (July 2, 2002) (finding that “the loss of the southern California frogs on the periphery of the species’ range” would

create a gap in the range of the taxon); *Final Rule to List the Santa Barbara County Distinct Population of the Calif. Tiger Salamander as Endangered*, 65 Fed. Reg. 57,242, 57,244 (Sep. 21, 2000) (finding that the loss of the “southernmost population of the species” would create a gap in the range of the taxon); *Determination of Threatened Status for the Northern Population of the Copperbelly Water Snake*, 62 Fed. Reg. 4183, 4184 (Jan. 29, 1997) (concluding that “[t]he loss of the peripheral, isolated, northern population” would create a gap in the range of the taxon); *12-Month Finding for a Petition To List the Wash. Population of the Western Sage Grouse*, 66 Fed. Reg. 22,984, 22,991-92 (proposed May 7, 2001) (finding that the loss of “the extreme northwestern extent of greater sage grouse range” would create a gap in the range of the taxon).

We defer to the FWS’ interpretation of a “gap at the end of the fence” because it is not plainly erroneous. Even the loss of a peripheral population, however small, would create an empty geographic space in the range of the taxon. Regardless of the size of such a gap, a gap would exist. To satisfy the second significance factor, however, the gap must be significant, to which question we now turn.

b. *Whether the Gap Would be Significant*

Since the loss of the Arizona pygmy-owls would create a gap in the range of the taxon, we now consider whether that gap is significant. The *DPS Policy* intended the term “significant” to have its “commonly understood” meaning, which is “important.” 61 Fed. Reg. at 4723; *Webster’s New World Dictionary* at 1248. The plain language of the second significance factor does not limit how a gap could be important, *see DPS Policy*, 61 Fed. Reg. at 4725, and, as discussed *infra*, the FWS has given different reasons for the importance of gaps in various listing rules.

In the Listing Rule, the FWS did not clearly explain why the gap that would be caused by the extirpation of the Arizona

pygmy-owls is significant. Agencies must “ ‘articulate a satisfactory explanation’ ” for their action to permit effective judicial review. *Dioxin/Organochlorine Ctr. v. Clarke*, 57 F.3d 1517, 1525 (9th Cir. 1995) (quoting *Northwest Motorcycle Ass'n v. United States Dep't of Agriculture*, 18 F.3d 1468, 1478 (9th Cir. 1994)); see also *DPS Policy*, 61 Fed. Reg. at 4723, 4725 (pledging fully to explain any DPS designation in detail). We can, however, uphold agency decisions “ ‘of less than ideal clarity if the agency’s path may reasonably be discerned,’ ” so long as we do not “ ‘supply a reasoned basis for the agency’s action that the agency itself has not given’ ” or “ ‘attempt to make up for deficiencies in the agency’s decision.’ ” *Dioxin/Organochlorine Ctr.*, 57 F.3d at 1525 (quoting *Northwest Motorcycle Ass'n*, 18 F.3d at 1478) (internal citations and quotation marks omitted).

The FWS argues that it found the gap to be significant in the Listing Rule because the loss of the Arizona pygmy-owls would (1) decrease the genetic variability of the taxon; (2) reduce the current range of the taxon; (3) reduce the historic range of the taxon; and (4) extirpate the western pygmy-owls from the United States. We therefore must examine whether the FWS had a rational basis in its Listing Rule to base a significance finding on any of these grounds or whether the FWS’ arguments here are only *post hoc* rationalizations.

(1) Decrease the Genetic Variability of the Taxon

In the Listing Rule, the FWS found that the loss of the Arizona pygmy-owl population would “decrease the genetic variability of the taxon.” 62 Fed. Reg. at 10,737. On appeal, the FWS contends that peripheral populations like the Arizona pygmy-owls “may have more genetic divergence than central populations, making them more important to the survival of the species, particularly in response to adaption to environmental change.” Thus, since the peripheral Arizona pygmy-owl population might be genetically distinct from the central population of pygmy-owls in northwestern Mexico, the loss

of the Arizona population could impair the survival of the northwestern Mexico population in a crisis. *Cf.* 67 Fed. Reg. at 44,385 (finding that the loss of the peripheral mountain yellow-legged frog population “could have significant conservation implications” because it may be “genetically and morphologically divergent from central populations”).

The Listing Rule discusses genetic differences among pygmy-owls in two places. First, in a discussion of whether the eastern and western pygmy-owls were separate DPSs, the FWS found that the eastern and western pygmy-owl populations were discrete from each other based in part on their “potential morphological and genetic distinctness.” 62 Fed. Reg. at 10,731. Second, in the Listing Rule’s discussion of whether the Arizona pygmy-owls should be listed as an endangered species, which was separate from the discussion on whether the Arizona pygmy-owls constituted a DPS, the FWS addressed the pygmy-owls’ “genetic vulnerability to random extinction.” *Id.* at 10,744. In that section, the FWS cited the only “genetic study completed on pygmy-owls in the United States,” which found “very little genetic difference” between pygmy-owls in Texas and northeastern Mexico. *Id.* at 10,744. The “low levels of genetic variation in the pygmy-owls” were noteworthy because “[p]opulations without genetic variation are often considered imperiled due to either the effect of low population numbers, increased chance of inbreeding, or both.” *Id.*

[5] Nowhere in the Listing Rule, however, does the FWS mention the existence of any genetic differences between the pygmy-owls in Arizona and northwestern Mexico, nor does the record provide any evidence to that effect. *See generally* 62 Fed. Reg. 10,730. Neither the FWS’ finding of potential genetic differences among western and eastern pygmy-owls, nor the genetic study that discovered “very little genetic difference” between the Texas and southeastern Mexico pygmy-owls, is evidence of genetic differences between Arizona and northwestern Mexico pygmy-owls. We cannot defer to the

FWS' argument on appeal that the Arizona pygmy-owls are genetically distinct from and important to the central population of northwestern Mexico pygmy-owls because the FWS did not make such a finding in the Listing Rule. Since the Listing Rule does not contain evidence of genetic variability between the Arizona and northwestern Mexico pygmy-owls, the argument that the loss of the Arizona population is significant because it would "decrease the genetic variability of the taxon," *id.* at 10,737, appears to be a *post hoc* rationalization. While the FWS can draw conclusions based on less than conclusive scientific evidence, *Southwest Ctr. for Biological Diversity v. Babbitt*, 215 F.3d 58, 60 (D.C. Cir. 2000), it cannot base its conclusions on no evidence. *See Bennett v. Spear*, 520 U.S. 154, 176 (1997) ("The obvious purpose of the requirement that each agency 'use the best scientific and commercial evidence available' is to ensure that the ESA not be implemented haphazardly, on the basis of speculation or surmise.").

(2) *Reduce the Current Range of the Taxon*

The FWS argues that the gap would be significant because the loss of the Arizona pygmy-owls would reduce the current range of its taxon. In other listing rules, the FWS has found two ways in which the loss of a discrete population could reduce the current range of its taxon.

First, the loss of a discrete population could reduce the geographic size of the taxon's range. *See Final Rule to List the Northern Population of the Bog Turtle as Threatened and the Southern Population as Threatened Due to Similarity of Appearance*, 62 Fed. Reg. 59,605, 59,609 (Nov. 4, 1997) ("The northern population of the bog turtle meets the 'significance' criterion because loss of this DPS, which occurs in seven States and represents over 50 percent of the species' range, would result in a significant void in the range and distribution of the species."); *12-Month Finding for a Petition To List the Yellow-billed Cuckoo in the Western Continental*

United States, 66 Fed. Reg. 38,611, 38,622 (July 25, 2001) (finding a gap to be significant in part because the loss of the western yellow-billed cuckoos would reduce the species' current range by "more than 20 percent"); *see also* 65 Fed. Reg. at 57,244 (finding the loss of the salamander population to be significant in part because it would result in "the curtailment of the range of the species as a whole"). These listing rules suggest that finding a gap significant based on the curtailment of a taxon's current range requires the loss of a geographic area that amounts to a substantial reduction of a taxon's range. *See* 62 Fed. Reg. 59,609; 66 Fed. Reg. at 38,622. The FWS found in the Listing Rule, however, that the Arizona pygmy-owls represented only "a small percentage" of the total range of the western pygmy-owls. 62 Fed. Reg. at 10,737. It did not find that the loss of this "small percentage" of the western pygmy-owls' current range would substantially curtail that range.

Second, the loss of a discrete population that is numerous and constitutes a large percentage of the total number of taxon members could be considered a significant curtailment of a taxon's current range. *See Proposed Endangered Status for a Distinct Population Segment of Smalltooth Sawfish in the United States*, 66 Fed. Reg. 19,414, 19,416 (proposed Apr. 16, 2001) (finding that a gap caused by the loss of the smalltooth sawfish population in the United States would be significant because that population was very large and other populations of smalltooth sawfish in the world were small and declining). Here, the FWS found that the Arizona pygmy-owls number between 20 and 40 individuals. *See Home Builders*, 2001 WL 1876349, at *4. The FWS did not find, however, that the loss of these 20 to 40 individuals would significantly curtail the western pygmy-owls' current range, which consists mostly of the more-numerous northwestern Mexico pygmy-owl population. *See Listing Rule*, 62 Fed. Reg. at 10,741.

(3) Reduce the Historic Range of the Taxon

The FWS argues that the gap would be significant because the loss of the Arizona pygmy-owls would reduce the historical range of its taxon. Other listing rules have found a gap to be significant on these grounds. *See* 66 Fed. Reg. at 22,992 (“[L]oss of the population segment of western sage grouse that remains within the Columbia Basin would represent a significant gap in the historic range of the taxon”); 66 Fed. Reg. at 38,622 (finding a gap to be significant in part because the loss of the western yellow-billed cuckoos would mean “a loss of the species from about 28 percent of its historic range in the continental United States”).

[6] The issue here is whether the FWS provided a rational basis in the Listing Rule for its conclusion that the loss of the Arizona pygmy-owl population would significantly reduce the historical range of its taxon. We confronted a similar issue in *Defenders of Wildlife*, 258 F.3d 1136. The ESA defines an “endangered species” as “any species which is in danger of extinction throughout all or a *significant portion of its range*.” 16 U.S.C. § 1532(6) (emphasis added). From that definition, it was unclear what constituted a significant portion of a species’ range. We held that a species could be extinct throughout a significant portion of its range “if there are major geographical areas in which it is no longer viable but once was.” 258 F.3d at 1145. Although “the ‘significant gap in the range’ analysis required for a DPS” is not the same as “the ‘significant portion of the range’ analysis required for a listing decision for the entire species,” 66 Fed. Reg. at 38,622, the two analyses are similar and *Defenders of Wildlife* provides useful guidance here. By analogy, the historical range of a taxon would be reduced “if there are major geographical areas in which it is no longer viable but once was.” *Defenders of Wildlife*, 258 F.3d at 1145.

[7] While the loss of pygmy-owls in Arizona would mean that western pygmy-owls were no longer viable where they

once were, the question arises as to whether Arizona is a “major geographic area” in the historical range of the western pygmy-owls. We emphasized in *Defenders of Wildlife* that the flexibility of the “major geographical area” analysis gave the FWS “a wide degree of discretion” to determine what constituted a “major geographic area” of a species’ range. *See id.* In the Listing Rule, however, the FWS concluded only that the Arizona population was at the periphery of the western pygmy-owls’ historical range and that this peripheral population was always a stable portion of that range. *See* 62 Fed. Reg. at 10,734, 10,740-41. That, by itself, does not make Arizona a “major geographical area” in the western pygmy-owl’s historic range and the Listing Rule is devoid of further discussion relevant to this issue. The proposed listing rule contains a map of the western pygmy-owls’ historic range, 59 Fed. Reg. at 63,976, but we cannot “be compelled to guess” at whether the map shows that Arizona constitutes a “major geographic area” of that historic range. *See SEC v. Chenery Corp.*, 332 U.S. 194, 196-97 (1947) (“It will not do for a court to be compelled to guess at the theory underlying the agency’s action; nor can a court be expected to chisel that which must be precise from what the agency has left vague and indecisive.”).

[8] While the Arizona range might possibly be significant to its taxon’s historic range despite its existence as a stable population at the periphery of that range, the FWS did not articulate a reasoned basis in the Listing Rule as to why that is so. We cannot supply a reasoned basis here “to make up for deficiencies in the agency’s decision,” nor can we defer to the FWS when its path of reasoning is not clear. *See Dioxin/Organochlorine Ctr.*, 57 F.3d at 1525.

(4) Extirpation of the Western Pygmy-Owl from the United States

Finally, the FWS argues that the gap would be significant because it would deprive the United States of its portion of

the western pygmy-owl's range. Similarly, Intervenor-Appellees argue that the Arizona pygmy-owl's range is significant because of its location in the United States, where it and the owl can receive ESA protection.

[9] This argument misconstrues the second significance factor. In designating a DPS under the *DPS Policy*, the FWS must find that a discrete population is significant to its taxon as a whole, not to the United States. *See* 61 Fed. Reg. at 4725. Extirpation of the western pygmy-owl from the United States is certainly significant to the United States, but that does not mean that the loss of the Arizona pygmy-owl population is significant to its taxon. The gap caused by the loss of the pygmy-owl's Arizona range cannot be significant to the range of the taxon as a whole simply because that range is in the United States. There must also be some significance to the entire taxon.

[10] In other listing rules, the FWS has found a gap to be significant due to the loss of the United States range of a population only where some additional significance to the taxon as a whole also existed. *See* 66 Fed. Reg. at 19,416 (finding that the gap created by the loss of the United States population of smalltooth sawfish would be significant, because it might be "the largest population of smalltooth sawfish in the Western Atlantic" and other smalltooth sawfish populations were "apparently relatively scarce" in comparison and "suffering worldwide declines"); *Final Endangered Status for a Distinct Population Segment of Anadromous Atlantic Salmon in the Gulf of Maine*, 65 Fed. Reg. 69,459, 69,460 (Nov. 17, 2000) (finding that the gap created by the loss of the Gulf of Maine salmon population was significant because it would substantially curtail the range of the Atlantic salmon by moving the range "an additional degree of latitude to the north" and, consequently, "beyond the borders of the United States").¹⁰

¹⁰This final rule is currently in litigation. *See Maine v. Fish and Wildlife Serv.*, 262 F.3d 13 (1st Cir. 2001) (resolving Freedom of Information Act claim); *Maine v. Norton*, 257 F. Supp. 2d 357 (D. Me. 2003) (deciding the case in favor of the FWS). Its appeal status is not reported.

In the case at bench, it is true that the loss of the Arizona pygmy-owls would move the western pygmy-owl range beyond the borders of the United States. Yet, apart from the significance of that loss to the United States, the FWS did not give any additional reason in the Listing Rule why the gap caused by the loss of the Arizona population would also be significant to its taxon as a whole.

[11] In sum, we conclude that the FWS did not articulate a reasoned basis in the Listing Rule for finding that the gap created by the loss of the discrete Arizona pygmy-owl population would be significant to the taxon as a whole.

2. *The Fourth Significance Factor*

[12] A discrete population can be significant to its taxon based on evidence that it “differs markedly from other populations of the species in its genetic characteristics.” *DPS Policy*, 61 Fed. Reg. at 4725. The FWS argues that since the eastern and western pygmy-owls had potentially different genetic characteristics, the loss of the Arizona pygmy-owls would extirpate the genetic distinctness of the western pygmy-owls from the United States.¹¹ As argued by the FWS, such a loss would contravene the ESA’s policy of conserving genetic resources.

[13] In the Listing Rule, the FWS divided the Arizona pygmy-owls and the northwestern Mexico pygmy-owls into separate populations. Therefore, under the plain language of the fourth significance factor, the FWS needed to show that

¹¹The FWS also found in the Listing Rule that differences in habitat between the eastern and western pygmy-owls contributed to their discreteness and, if either population were extirpated from the United States, that population would be difficult to replace because it “would require different habitat parameters” than the other population. 62 Fed. Reg. at 10,737. Because the FWS did not show how these habitat differences related to differences in genetic characteristics between the eastern and western pygmy-owls, we do not address those habitat differences here.

the Arizona pygmy-owls differed markedly in their genetic characteristics from the northwestern Mexico pygmy-owls. *See id.* Yet neither the Listing Rule nor the record presented any evidence of marked genetic differences between the pygmy-owls in Arizona and northwestern Mexico. The FWS attempts to argue around this lack of evidence by citing to the finding that the western and eastern pygmy-owls had potential genetic differences and then arguing that the conservation policy incorporated in the significance element mandated the protection of the western pygmy-owls within the United States. We reject this argument because (1) the FWS only found potential, rather than marked, genetic differences between the eastern and western pygmy-owls, and (2) the FWS must find that a discrete population is significant to its taxon, not to the United States.

The FWS found in the Listing Rule that “[t]he potential for genetic distinctness” exists between the western and eastern pygmy-owls. 62 Fed. Reg. at 10,731. The Listing Rule highlighted two facts to support this determination. First, non-migratory pygmy-owls are “separated by the basin-and-range mountains and intervening Chihuahuan Desert basins of southeastern Arizona, southern New Mexico, and western Texas” in the United States and “by the highlands of the Sierra Madre Oriental and Occidental, and the Mexican Plateau” in Mexico. *Id.* This separation suggests infrequent genetic mixing between the two pygmy-owl populations. *Id.* Second, the Listing Rule found that “considerable variation in plumage between regional populations has been noted, including specific distinctions between Arizona and Texas pygmy-owls.” *Id.* The literature cited by the Listing Rule does contain evidence of “specific distinctions” in plumage between Arizona and Texas pygmy-owls. *See* A.R. Vol. 4, at V (Burton 1973) (noting variations in plumage among different ferruginous pygmy-owl subspecies); A.R. Vol. 5, at YY (Johnsgard 1988) (explaining that grayish-brown pygmy-owls with rufous tail-bands usually reside in Texas and Arizona, although an “entirely rufous” pygmy-owl is found sometimes

in Arizona); A.R. Vol. 6, at RRRR (Tyler and Phillips 1978) (describing Arizona pygmy-owls as “decidedly pale gray, except for the tail which is rusty-colored” and the Texas pygmy-owl as “rusty-brown”); A.R. Vol. 6, at TTTT (Van Rossem 1937) (briefly explaining color differences between Arizona and Texas pygmy-owls). Based in part on this “potential morphological and genetic distinctness,” the FWS divided the pygmy-owls into eastern and western pygmy-owl populations. 62 Fed. Reg. at 10,731.

We conclude that this analysis fails to meet the requirement of the fourth significance factor. Under the *DPS Policy*, “markedly” is given its common meaning, which in this context is “appreciably.” 61 Fed. Reg. at 4723; *Webster’s New World Dictionary* at 828 (defining “marked”). Here, after examining all the evidence described above, the FWS only found that potential (*i.e.*, possible) genetic differences exist between the western and eastern pygmy-owl populations. Listing Rule, 62 Fed. Reg. at 10,731. The fourth significance factor, however, requires not only actual genetic differences, but that those actual genetic differences be appreciable. In this case, the FWS was not even sure if the genetic differences between the eastern and western pygmy-owl populations were actual, let alone appreciable. *Id.* at 10,731. Moreover, the only genetic study conducted on the pygmy-owls found “very little genetic difference” between the Texas and northeastern Mexico pygmy-owls. *See id.* This study did not evaluate genetic differences between western and eastern pygmy-owls, and the finding of “low levels of genetic variation” among eastern pygmy-owls certainly does nothing to show that genetic differences between the western and eastern pygmy-owls are more than just a possibility. *Cf. 12-Month Finding on a Petition To List Bocaccio as Threatened*, 67 Fed. Reg. 69,704, 69,705 (proposed Nov. 19, 2002) (“[G]enetic analysis indicates that there is a 90-percent probability that the northern and southern population segments are genetically distinct.”); 67 Fed. Reg. at 44,384 (“[T]wo different genetic analyses have been conducted that support the concept that mountain

yellow-legged frog populations in southern California are different from those in the Sierra Nevada.”).

The FWS also contends that the policy behind the significance element of the *DPS Policy* mandates the conservation of the genetic diversity of the United States population of the western pygmy-owls. The FWS argues that:

[w]ithout the Arizona population, the United States would have lost one of its two pygmy-owl populations, and the chance it had to conserve the western population. Conservation of the western range would then be entirely in the hands of Mexico, because the U.S. has no ability to protect the species outside its borders.

[14] Under the *DPS Policy*, a discrete population segment must be significant “to the taxon to which it belongs.” 61 Fed. Reg. at 4725. The FWS’ argument, however, emphasizes the significance of the Arizona pygmy-owls to the United States, not to its taxon. *Cf. Change in Listing Status of Steller Sea Lions Under the Endangered Species Act*, 62 Fed. Reg. 24,345, 24,350 (May 5, 1997) (finding that “[i]n the case of Steller sea lions, the eastern and western population segments . . . make up the entire range of the species,” so “[e]xtinction of either population segment would represent a substantial loss to the ecological and genetic diversity of the species as a whole” (emphasis added)).

The FWS promulgated the *DPS Policy* consistently to designate DPSs “in light of Congressional guidance . . . that the authority to list DPS’s [sic] be used ‘. . . sparingly’ while encouraging the conservation of genetic diversity.” 61 Fed. Reg. at 4725. Having chosen to promulgate the *DPS Policy*, the FWS must follow that policy. *Steenholdt v. FAA*, 314 F.3d 633, 639 (D.C. Cir. 2003) (noting that federal agencies must follow their own rules); *see also United States ex rel. Accardi v. Shaughnessy*, 347 U.S. 260 (1954). As such, to meet this

fourth significance factor, the FWS must find significance to the taxon as a whole, not just to the United States. It did not do so in this case.

[15] We conclude, therefore, that the FWS did not articulate a rational basis in the Listing Rule for its finding that the discrete Arizona pygmy-owl population is significant to its taxon as a whole under either the second or fourth significance factor.

CONCLUSION

[16] We hold that the FWS did not arbitrarily find the Arizona pygmy-owl population to be discrete because differences in conservation status exist across the international boundary between the United States and Mexico. We also hold, however, that FWS did not articulate a rational basis in the Listing Rule for its finding that the discrete Arizona pygmy-owl population was significant because its loss would create a significant gap in the range of its taxon or because it differed markedly in its genetic characteristics from the northwestern Mexico pygmy-owls. Thus, we conclude that the FWS acted arbitrarily and capriciously in designating the Arizona pygmy-owl population as a DPS under the *DPS Policy*. The judgment of the district court is reversed and the case is remanded to the district court for further proceedings consistent with this opinion.

REVERSED and REMANDED.

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